

AMERICAN BEE JOURNAL



GEORGE W. YORK,
Editor.

CHICAGO, ILL., MAY 2, 1901.

FORTY-FIRST YEAR
No. 18.

WEEKLY

MAY

BY EUGENE SECOR.

One day
I past an orchard where the bloom
Seemed coaxing honey-bees
To stop and sip its tempting wine
And pack their basket-knees
With pollen-bread on which to dine—
Both laden with perfume—
And it was May.

In May
The dandelions ply their art
To spread a honey-feast;
They fling their yellow banners out
Against the beaming East
As if to say to bees about,
“We yield our inmost heart—
Kiss us, we pray.”

In May
The birds are busy building nests
Or guarding pregnant eggs;
King Corn, the buried out of sight,
Is soon upon his legs
To prove the crown is placed aright—
For all the loyal West's
Corn-men so say.

Survey
The clover-fields, the grazing herds,
The dogwood in full flower,
The trees that stretch an inch each day
With quick'ning shine and shower.
Survey, and tell me, need I say
In stronger, ampler words,
That this is May?



THE AMERICAN BEE JOURNAL.

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To promote and protect the interests of its members.
To prevent the adulteration of honey.
To prosecute dishonest honey-dealers.

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ESTABLISHED IN 1861 THE OLDEST BEE-PAPER IN AMERICA

41st YEAR.

CHICAGO, ILL., MAY 2, 1901.

No. 18.

Editorial.

Next National Convention.—It seems from the following, sent us by Secretary Mason, the next meeting of the National Bee-Keepers' Association will be held at Buffalo, N. Y., Sept. 10, 11 and 12, 1901:

EDITOR AMERICAN BEE JOURNAL:

Many inquiries have been received by the Executive Committee of the National Bee-Keepers' Association regarding the time and place for holding the next convention. The reply has generally been that Buffalo, N. Y., would be the place of meeting; but until this morning (April 17th) the date of meeting had not been settled upon.

On March 2d the Secretary of the American Pomological Society wrote President Root in part as follows:

"As bee-keepers and fruit-growers have many interests in common which could be considered and discuss with mutual profit, our Executive Committee has instructed me to extend to your Association a cordial invitation to hold a joint meeting at some time during our session, the exact time to be decided later by correspondence."

"At this meeting we would suggest that the subjects of discussion center round the general topic of the mutual relations of bee-keeping and fruit-growing.....which can be briefly treated by speakers selected in advance from among our prominent bee-men and fruit-men.....in order that a better understanding of these mutual relations may be reached.It has been suggested that a considerable portion of fruit-growers do not yet appreciate the preponderance of the benefit derived. It is felt that a full public discussion of the subject would, therefore, result in good to both industries."

Realizing, as the Executive Committee did, that this was a golden opportunity for presenting the bee-keepers' side of the subject to the representative men of the fruit-growing industry, the invitation of the Pomological Society was at once accepted by the committee in behalf of the Association.

We have had to delay the fixing of the date for our convention until the Pomological Society had fixt their time of meeting. Our convention will be held on the 10th, 11th, and 12th of September next, commencing on Tuesday evening the 10th.

We were at first undecided as to place of meeting, hoping that the G. A. R. would meet at Denver, Colo., but when it decided to meet at Cleveland, and we received the invitation of the Pomological Society, we felt that we ought not to miss such a splendid chance to enlighten some of them on the relation of bees to horticulture, and, by meeting at Buffalo, the York State and Canadian bee-keepers would be within easy reach of the place of meeting; so we at once fixt on Buffalo as the most desirable place.

It has been decided not to have any papers or essays, but to rely wholly on the question-box to bring out the best and most important matters for discussion; so any one not being able to be at the convention, having any question or questions that he may wish to have

discuss, can send them to the Secretary at any time.

The committee has taken the liberty to request the Secretary of the Ontario Bee-Keepers' Association to ask the members of that association who may attend the meeting at Buffalo, to bring their badges with them and wear them at our sessions, whether they are members of our Association or not, so that we may feel more as one, and know who our progressive neighbors are.

Information regarding place of meeting, entertainment, and railroad rates, will be given as soon as decided upon. Don't be in a hurry about securing a sleeping-place during the convention. There is plenty of time, and, later on, better rates can be secured; but if you are in a hurry, write to the Young Men's Christian Association, and don't be bled by "sharks." A. B. MASON, Sec.

Sta. B, Toledo, Ohio.

We trust that all who can possibly arrange to do so will endeavor to be at the Buffalo convention next September. It ought to be a bigger and better one than was the Chicago convention last August—tho, of course, that could hardly be expected even at Buffalo! (Now, see Mr. Hershiser buckle down to the job of trying to outdo Chicago.)

"There is Always Plenty of honey," said a honey commission dealer to us several years ago. That seemed a strange remark to make, especially in view of what have commonly been termed "poor honey-years," which have been somewhat frequent in appearance during the past ten or fifteen years. But Mr. Dealer knew what he was talking about.

The year 1900 was said by some, if not by the "oldest (bee-keeping) inhabitant," to have been the poorest for honey in thirty years. And yet what do we find? Why, more honey in the hands of dealers to be carried over, we believe, than for a number of years past. One dealer, about two months ago, had eight or ten car-loads of white extracted honey on hand yet. We know some others who also have quite a quantity left on their hands. Likely all of them will have to wait until next fall before it can be moved off; and then, if there should be a large new crop, it will have to be sold at a loss.

"There is always plenty of honey" comes pretty near being the truth. But it would not be true if there were anything like a more even distribution of the honey crop each year. Why, there wouldn't begin to be enough to go half way around if that were the case. The great trouble is, so much of it is shipped to the large centers, thus glutting those markets, causing a demoralization of prices, while many near-by, the smaller, markets, are entirely bare of honey. And often in such local markets the very highest prices are realized.

In a city of about 2,500 population, not quite a hundred miles away from Chicago, a

leading grocer agreed to take as high as five car-loads of strawberries grown within 15 miles of his store, at 10 cents a quart! Think of it! And yet, in Chicago strawberries are often sold at four quarts for 25 cents! Why is it? Simply because nearly every strawberry-grower in the country thinks he must dump his crop on the Chicago market. It is all wrong. And it is the same way with honey.

Far better prices would be secured if much of the stuff that is sent to Chicago, or to other large centers, were sold nearer home. This is a subject worth careful investigation.

Short-Tubed Clover is nowadays discussed along with long-tongued bees, and it is reasonable to believe that the seed saved from the first crop of red clover will have in it a larger percent of the short-tubed kind than that from the second crop. A little explanation will help to an understanding. At present it is only the second crop of red clover that is a seed crop. That is because the fertilization of the blossoms is effected almost entirely by bumble-bees, and at the time of the first crop there are not enough bumble-bees to fertilize more than a very small number of blossoms. For unlike hive-bees, a single bumble-bee starts a nest in spring, and only later on do bumble-bees appear in numbers.

So it happens that the proportion of hive-bees to bumble-bees found working on the first crop should be many times greater than on the second. It will be only the shorter-tubed kind that the hive-bees will visit, of course, and the seed from that will be likely to reproduce itself. It will be easily understood that at first only a small amount of seed would be secured on any given surface, but the proportion ought rapidly to increase from year to year. It may be well to speculate a little on what might be the outcome. Suppose we take a plot of ground from which a bushel of seed of the second crop might be secured. Save the seed from the first crop, which may be a pint or less. But in that pint half the seed may be of the short-tubed kind, whereas in the second crop there would not be one in a thousand. Now sow this pint the next year in a plot by itself. It is reasonable to expect that at least half the plants will have short tubes, and so half the seed will be of the improved kind. Continuing in this way, it would be not a matter of many years to have seed in unlimited quantity, half of which would be of the short-tubed kind.

But another factor comes into the problem, which greatly hastens the result. As soon as the amount of ground covered by clover from this half-and-half seed assumes tolerable proportions, the seed fertilized by bumble-bees

will no longer hold the same proportion as at first. For the number of bumble-bees is a limited quantity, and they can only fertilize a fixt number of flowers. For the sake of illustration suppose there are enough bumble-bees to produce a bushel of seed within a given area. A small field will suffice them, and if the field be ten times as large they can fertilize no more seed. Now suppose enough of our half-and-half seed is sown in that area to produce two bushels of first-crop seed. It will continue to be half-and-half just so long as we do not go beyond that amount. But whenever we go beyond the crop of two bushels, then not only a proportion of the increase, but all the increase should be short-tubed.

If a peck of seed is sown to the acre, and the crop harvested is three bushels to the acre, then there is a twelve-fold increase. So when our bushel of half-and-half seed produces a crop of 12 bushels, 11 bushels of it ought to be of the short-tubed kind, and this 12 bushels sown ought to produce 144 bushels having only one bushel of long-tubed seed in it, or 99.3 percent pure. "It is the first step that costs," and in this case the difficult thing is to get the first bushel of half-and-half seed. After that the way is easy. Indeed the way ought not be very hard after the first pound is secured.

Of course, all this is only speculative, and like many another thing in bee-keeping, may not "pan out" at all as anticipated; but the great importance of the matter warrants some speculation, and this may serve at least to arrest the thought of some wide-awake bee-keeping farmer, and to secure from him some effort toward the desired end.

Loading Combs for Wagon-Hauling

—The right way to load combs, either brood-combs or sections, has been a matter of some difference of opinion. When loaded on cars, all seem to agree that the edges of the combs should point toward the engine, as the bumping is from front or rear, and not sidewise. Opinion is divided as to loading on a wagon. Perhaps all will agree that on a smooth road on a very steep hill the loading should be the same as on a car, but ordinary roads are not so very smooth, and the hills are not so very steep. The editor of the Bee-Keepers' Review champions loading the same as on a car, and gives reasons why he thinks that ought to be the better way. A few have given the result of actual experiment, one of which is given in a Stray Straw in Gleanings in Bee-Culture as follows:

March 25th the roads were muddy and rough. I drove down town, putting in the wagon two empty supers, setting them on one side. The front one ran across the wagon and the other lengthwise. The one running lengthwise fell down. Then I put the front one lengthwise and the other crosswise. As often as they fell I set them up again, constantly changing. Out of 13 times the lengthwise super fell first every time but one. That was going down a hill, but going down the steepest hill the lengthwise super fell and the other stood its ground. If I had been hauling combs on that trip, don't you believe they should have been loaded crosswise? Now some of you report how the same thing works on your road.—[This is an interesting and valuable experiment. It is so easily tried that wonder none of us had thought of it before. would suggest that those of our readers who have "to drive to town" pretty often over umpy roads, try the same experiment and

report. From the results above given it is very clear that the edges of the combs should point toward the wheels and not toward the horse.—EDITOR.]

Bees Attack Mountain-Climbers.

A correspondent from Honolulu, Sandwich Islands, reported an occurrence in that country in which a mountain-climbing party was attacked by a colony of wild bees, and came near losing their lives. They had climbed Konahuhui, the highest peak near the city, and decided to descend on the Nuanu Valley side, which had been considered impossible. They scrambled down precipitous cliffs 75 feet high, clinging to the rocks with hands and feet. When part way down they were attacked by the bees, which stung them while they were helpless to ward them off. For nearly a mile the bees followed them until they reached a point where they were safe.

Weekly Budget.

GOOD ADVICE [For Missouri ?].

"Pray, what is good for chappy cheeks?"
Wrote Molly to the editor,
And in due time—about two weeks—
She got the answer written for.
To other ears by chance it leaks,
A little birdie told, perhaps;
Thus: "If you wish not chappy cheeks,
You must avoid the cheeky chaps."

—WILL WARD MITCHELL.

MR. JOHN ZWAHLEN, of Emery Co., Utah, gives the following report for 1900, in the Rocky Mountain Bee Journal, being an average of 292 pounds of extracted honey per colony:

"I see it stated that Oliver Foster produced 86,000 pounds of honey last year from 500 colonies. I have done better than that. I secured 19,000 pounds from 65 colonies; and Christian Ottisen, 23 miles farther north, in this county, did even better, but I can not say just how much."

"EDITOR MITCHELL, who undertook part of the editorship of this paper last autumn, has been compelled to abandon the undertaking. His eyes for the past year or two have been of more or less trouble, and of consequent great distress—to one who has to use his eyes almost continually, as does a printer and editor."

This paragraph is taken from the April Progressive Bee-Keeper. We regret very much to learn that Mr. Mitchell's affliction has compelled him to relinquish some of his undertakings, and trust that the enforced rest and recuperation may soon bring him out all right.

PRESIDENT E. S. LOVESY, of the Utah Bee-Keepers' Association, writing us from Salt Lake Co., March 12th, had this to say:

"FRIEND YORK:—Spring appears to be with us again. The bees, the trees, and the birds, in fact all Nature seems to be putting on new life. Our bees were carrying in pollen March 1st—something they don't often do so early. And we are having a great deal of snow and rain, which is pretty generally distributed over the State, thus insuring a good supply of irrigating water, which in turn will

insure good crops and a good honey-flow. If the weather keeps mild we may expect to see our bees and bee-keepers 'in clover' once again. The bees that went into winter quarters in good condition appear to have wintered fairly well, while a few smothered for lack of ventilation. The smelter smoke here in Salt Lake County has been the cause of our principal losses."

Again on April 14th Mr. Lovesy wrote us as follows:

"The prospects are excellent in Utah this season for a good honey crop. While the bees are in fairly good condition, barring any accident that we know not of, they will give a good account of themselves."

EDITOR LEAHY, of the Progressive Bee-Keeper, it seems, was also somewhat shocked by the "rhythmical break" made by Stenog in Gleanings in Bee-Culture, when he tried to make "harm" rhyme with "barn." After copying the questionable stanza (see page 244), Mr. Leahy follows with this comment:

It's rather a stretch of poetic license, and tho we are quite willing the price of clover be brought down, we are not willing to see the harmony of "harm" and "barn." The following from the pencil of a despondent Ohio youth has more jingle and rhyme, and is more to the point:

"O, bury me deep, deep in the ground,
Where the humming-bird hums,
And the bumble-bee bums,
And the straddle-bug straddles around."

We must confess that Mr. Leahy's cultivated choice of poetry does have a clear-cut kind of jingle that no one can mistake or fail to appreciate. In the "hum" and the "bum" of the thing there is no humbug poetry, even if there is a straddle-bug that "straddles around" with so much importance.

MR. W. F. ORDET, of Cuba, under date of Jan. 22d, says, that the present season has been the poorest ever known in that section, and concludes the information with this paragraph: "I started with 8 colonies in December, and now have 20. They will soon be ready to divide again." No doubt that report is rather discouraging to one of Mr. Ordet's enthusiasm; but he would be surprised to learn how very little sympathy it will elicit in these United States of America, where almost any of us should consider ourselves very fortunate to accomplish in two whole years what he has done in two months or less. That projected second division of colonies so late in the season may prove a hazardous procedure.—American Bee-Keeper.

MR. A. E. WILLCUTT, of Hampshire Co., Mass., sent us a clipping some time ago telling about a "happenstance" down in Bangor, Maine, last fall. It seems when cold weather set in a fire was kindled in a fireplace in one of the houses in that city, that had not been occupied for some time. When the fire had been burning for about half an hour, the man of the house, upon coming into the room, found the floor covered with a sticky substance, more of which was running out of the fireplace. It was found that a swarm of bees had taken up their abode in the long unused chimney, and had there stored a large quantity of honey. The heat from the fire caused it to run down in a stream into the room, covering the carpet. The householder said he got \$4 worth of honey and lost \$60 worth of carpet. He probably did not feel like singing that part of the chorus of the song, "Busy Buzzing Bees," where it refers to "honey everywhere."

Contributed Articles.

No. 3.—Drone-Bees and Their Utility.

Can We, and Shall We, Control their Production ?

BY C. P. DADANT.

SINCE writing the two previous articles on this subject, I have met with some private arguments. I have been told that it is a mistake to try to change Nature, that even if I can reasonably argue that it is best to prevent the rearing of drones in most circumstances, it is an error to change natural conditions. I can not agree with this.

When we breed any kind of animals in domesticity, their natural conditions are already changed. No one thinks of trying to prevent the free breeding of wild fowls in the proportions which Nature has dictated. But where is the breeder of domestic fowls who will allow all the roosters to live? Where is the farmer who will keep all his male calves as bulls? And do we not succeed best by artificial selection? See with what care the farmer's wife picks out the finest roosters for the following season's use. And if she were careless, and killed or sent to market the finest of them, would you think she stood any chance of improving the breed? What is done with chickens or with cattle—can it not be done with our bees, in the measure of our powers? It is true that we can not absolutely control the reproduction, owing to the peculiar habits of the bees in their mating, but we can, in a great measure, direct the greater or less rearing of good or bad stock, and if we would succeed, we must do all that can possibly be done.

In natural conditions, a colony may be several miles from other bees and probably requires all the drones that it may produce. On the other hand, in domesticity, we may keep a hundred or more colonies in one spot. In that case, we have, if we leave it to the nature of the bees, a hundred or more times as many drones as will be needed for all the young queens that we may rear. We are therefore feeding, if we leave the bees alone, hundreds of thousands of drones that cost both food and heat to be reared, and whose problematic usefulness is in the possibility of their keeping the brood warm for a few days after the colony swarms. Some of these drones are certainly more desirable than others, for our colonies are not all equal in honey-production. In an apiary of one hundred colonies, we may have half a dozen colonies which will yield twice or three times as much honey as the average of the entire apiary, and at the same time we have a few colonies that will produce little if any more than enough for their own consumption. Not only must our female reproducers—the queens—be reared from some of those best colonies, but if we would encourage in all possible ways the breeding of the best, we must also try to breed the greatest number of drones from some of those preferable colonies. Yet, to avoid in-and-in breeding, which Nature so abhors, we should not breed both queens and drones from the same colonies.

These propositions being well established, it remains for us to decide not only how to get the greatest possible number of drones from the best colonies, but also how to prevent the fertilization of the queens by inferior drones.

Let me here open a parenthesis. I see that the question of the fertilization of queens in confinement is again agitated. If this were a success the fertilization of queens would be comparatively easy. But these things have been tried many times before, many sensible men have shouted "Victory!" only to find a little later on that they had allowed themselves to be deceived by appearances. Time will settle the question, but even a satisfactory solution would not affect the question of producing valuable drones and doing away with the valueless ones. I will now return to the matter on hand.

To secure a great number of drones from a colony is not difficult, especially if the queen is prolific. We need but to place drone-combs, one or two, in the center of the brood-nest. Altho the queen dislikes to lay eggs in these cells, until after she has bred a large number of workers, the situation of these combs will induce her to lay in them earlier in the season than she would have done otherwise,

and we will readily secure a large number of valuable drones early. As to the hive from which no reproduction is desirable, we must confine the drones to the hive, or catch them with a drone-trap as they emerge on sunny days, or behead them in the cells before they hatch, or simply prevent their being produced by removing the drone-comb before the laying has begun, and replacing it with worker-combs.

The first of these methods is certainly the worst. Many apiarists use the well-known drone-guard in front of the hive. This is a sort of "yard" made of perforated zinc placed at the entrance, and thru which the worker-bees alone can pass. The drones and the queen are compelled to stay in. It is also used to prevent swarming. Tho it answers the purpose, it is not practical because when the drones are induced to take flight by the warmth of the sun, they congregate within this guard and are in the way of the bees. Some people open the guard to let the drones out, and close it again to keep them from coming back. It would serve the purpose in compelling them to stay on the outside and starve if they were all to issue at the same time, but they are going and coming, and no satisfaction can be had out of such a method. The drone-trap is much better, for as the drones get into it they are caught and can not return, and are out of the way, but it must be attended to and emptied out regularly or they will die there and create a pestilence.

The third method, of beheading the sealed drones with a honey-knife, before they hatch, is efficient, but like the other two it has the very bad fault of having allowed the expense of rearing those drones almost to the perfect insect, without any returns. Then the comb in which they have been reared is very soon again filled with eggs, and the work must be done again. The last and only practical method of getting rid of the drones satisfactorily is to prevent their being reared, by removing the drone-comb before any drone-eggs are laid, very early in the spring, and replacing this comb with worker-comb, taken from deceased colonies or from extracting supers. This replacing of comb is a necessity, for the same reason that has caused the bees to build the drone-comb in the first place will cause them to rebuild the same kind in the same spot, if they are allowed to do so. But it is useless to expect to be able to remove every cell of drone-comb. In nearly every hive there are quite a number of little patches of drone-cells scattered here and there, and many of these pass unnoticed even on the closest examination, unless they are already full of brood, in which case the peculiar rounding shape of the capping of the drones will make them noticeable. But the production of a few drones in any hive is not objectionable. It is the pieces of six or eight inches square that give us the hosts of useless males, since the comb contains 36 of them to the square inch.

In my estimation, the prevention of drone-rearing is of importance especially because of the cost of breeding them. I have always been of the opinion that they are nearly as expensive to rear as they are to keep after they have hatched. Yet, they certainly consume considerable honey after they have emerged from their cell, but I would be inclined to think that nearly half of the total cost of their support during their short life is to be reckoned while they are in the cell. So it seems to me of the greatest importance, on this score alone, to prevent their being hatched.

I am told that the bees will not accept the removal of their drone-comb, and that they will cut down worker-cells, to change them to drone-comb, when all the drone-comb has been removed. This I disbelieve, as it is contrary to my experience. Tho they will rebuild drone-comb where drone-comb has been removed, they do not seem to feel the need of it enough to tear down good worker-comb. In order to convince me that this has ever been done by bees, it would require a very thoro experiment, made on old combs that would not sag under the weight of honey. I believe that what has led some bee-keepers to this opinion is the sagging and consequent elongating of cells by heat. This sometimes happens when the comb is new and heavily loaded, or by the use of defective foundation, which by stretching has become large enough for drones to hatch in it. But I doubt that bees have ever seen fit to tear down worker-comb to build drone-comb in its place. If they were prone to do so, they very probably would be inclined to do the reverse where too much drone-comb existed, and in the case of the Drury experiment, mentioned by me in a former article, when a colony had been furnish'd with nothing but drone-comb, they certainly would have torn down some of this comb to replace it with worker-comb, while

they only reduced the size of the cells by narrowing them down at the mouth.

But even take it for granted that the bees will insist on having some drone-comb. We have seen elsewhere that the average number of drones produced, ranges, according to some of the most experienced writers, from one-tenth to one-thirtieth. If we can keep the average number of drones produced by our poorest colonies at or below the smallest percentage, and if we can at the same time keep the drones reared by two or three of our best colonies at the very highest possible number, we already will have achieved a great deal towards securing improved matings and a greater production of honey.

Hancock Co., Ill.



Prof. Cook's Review of the "A B C" Book.

BY ERNEST R. ROOT.

IN the columns of the American Bee Journal Prof. Cook has given a review of "Dadant's Langstroth" and "Cowan's Honey-Bee," and now follows with a review of the "A B C of Bee-Culture." In his usual kindly manner he says at the outset, "Without doubt this book has exerted a wider influence upon the bee-keeping world than any others ever written. Even its rivals can only be joyous in its extensive sale, as they know that, wherever it goes, it goes to help and bless." Coming as those words do from one who is himself the author and publisher of a leading rival work, the publishers of the "A B C" would be hardly human if they did not feel a warming of the heart at their utterance.

He then proceeds to point out passages in which he thinks he has reason to believe there is error, altho admitting the possibility that in some cases he may be wrong. Some of these may properly deserve consideration and correction: in others there may be occasion to take exception to Prof. Cook's exceptions.

First, it is proper to call attention to the fact that the criticisms are not based on the edition issued last January, as one would suppose, but on the *old* edition—the one put out nearly two years ago. As it is, much that Prof. Cook criticises is not in the new book at all, such matter having been re-written or stricken out altogether.

As to the first error pointed out, there is no error in the book, but the error consists in very careless reading on the part of the reviewer—a carelessness that is hardly excusable, for one expects extreme carefulness on the part of one who points out the errors of others. The "A B C," page 2, in discussing what is to be done with second swarms that issue, says in effect that they must be watcht, climbed after, and hived. This sentence is immediately followed by another which says, "If one thinks this too much trouble, he should prevent having after-swarms as I advise under that head." He ignores the fact that the watching and climbing refers only to swarms that have issued, to say nothing of the fact that it would be an impossibility to prevent the issuing of a swarm after the swarm has actually issued. He goes on to give the Heddon as the best method of preventing second swarms. In the edition just out of the press the very next sentence refers to the place where, among other methods of preventing after-swarms, the Heddon plan is given more fully and correctly than it is given by the reviewer. If careless reading is inexcusable on the part of a critic, still less is careless quotation when the exact words are pretended to be given inside quotation-marks. In answer to the question as to what shall be done with a second swarm that has issued, the "A B C" says, "Candidly, I don't know of any better way than," etc. "Candidly, I don't know any better way to prevent second swarms than," etc., is the way Prof. Cook quotes it. We feel sure that he will say there is no sufficient excuse for interjecting the words "to prevent second swarms" in a direct quotation where they were neither written nor thought by the author of the book.

Prof. Cook objects to the statement that alfalfa honey is probably superior in quality to any other. He claims to be something of a judge of honey, and thinks alfalfa no better than clover, linden, sage, and perhaps others. It is a matter, not of judgment, but of taste. The best judge might prefer a flavor that no one else would fancy. The criticism, however, is a valid one. In matters which appeal entirely to taste, it is unwise to make sweeping statements.

Speaking of alfalfa the "A B C" says it takes about three years to get it to its best yield. Prof. Cook makes

the pleasant correction that in California the maximum yield is often got the very first year in the later cuttings.

The reviewer thinks it is putting it too strong to hint that bees gather from the dry hay. The simple truth is told that "one man reports so much sweet in it that he has seen bees by the thousand working on the dry hay in the spring."

Speaking of this matter, Prof. Cook says, "This is putting it altogether too strong. Still, I do not think that too much can be said in favor of alfalfa, for it is a marvelous crop." The good Professor will probably indulge in a quiet smile when he sees these two sentences side by side: "You are saying altogether too much for alfalfa," and "You can not say too much for alfalfa." Which is one to believe?

Prof. Cook objects to the definition of digestion given by the author, saying, "This is given as a question [what can be meant by that?], but he was not happy in his selection of authority." Not all will agree as to this, seeing the authority selected was no less than the able and careful T. W. Cowan. Prof. Cook teaches that "digestion is rendering the food osmotic."

Our reviewer says "malphygian" should be "malpighian." So it is in the latest edition, and one would hardly suppose an older edition should be the one reviewed. But his correction needs further correction, neither the book nor the critic being right, for "malpighian" should be "Malpighian."

The "A B C" says, "The blacks are also easier to shake off combs in extracting time, and for that reason alone some prefer them, or hybrids, to pure Italians, which can hardly be shaken off." Prof. Cook says, "I have very little trouble to fell at one shake every Italian bee from the comb if the latter fully fills the frame." If Prof. Cook can shake *every* bee from the frame at *one* shake, he will confer a lasting favor on some of the veterans if he will make the process known. In spite of their shaking off so easily, he considers they stick tighter than the blacks, and prefers them on that account, for the best men stick closest to their homes. There are times when one wants bees to stick by their comb, and then he will prefer the tighter grip of the Italians; but at times when one wants bees to shake off, as in the case mentioned, will one not prefer that the bees he is trying to shake off shall shake off rather than stick on?

Prof. Cook says, instead of Mr. Benton spending years in India, he "was in India only a few days." In relation to this point I have a letter from Mr. Benton, who says, "I left Cyprus for India in December, 1880; returned to Cyprus in May of the following year—absent just five months." While the statement in the "A B C" was not strictly correct, Prof. Cook is no nearer the truth, for he has gone clear to the other extreme.

He thinks it unfortunate that the "A B C" uses the term "worm" and "grub" as synonymous with larva. That criticism is worth considering, at least so far as to avoid calling a bee a worm during its early life. Whether much more than that could be accomplished is questionable. To his credit be it said that Prof. Cook is consistent in that he does not speak of wax-worms, he calls them larva or caterpillars. It is feared that, if a bee-keeper were to say that caterpillars had eaten up his combs, he might be laughed at. It is very likely, too, that for many years to come good scholars will say that wormy apples have worms in them. Moreover, when no entomologists are around, an insect-larva is a worm, for so the dictionary says. So is a larva of any insect a grub, by the same authority.

Instead of pollen and honey partially digested being fed to larvæ, Prof. Cook says it is pollen perfectly digested, with or without the addition of honey. When doctors disagree, who shall decide?

Prof. Cook objects to calling "viper's bugloss" blue thistle. He says it belongs to the borage family, is no thistle at all, and is like borage in being no serious pest—all of which he should have noticed is already told in "A B C." But blue thistle is one of its popular names, so given in the dictionary.

He thinks drones from laying-workers are as large as any, and it is likely that is true when they are reared in drone-cells.

"It is very doubtful indeed that unimpregnated eggs will ever produce workers," says the reviewer. It is not said in "A B C" that they ever will.

He thinks the word fecundate or impregnate should be used rather than fertilize. According to the dictionary, either is right.

Referring to feeding at night, Prof. Cook says, "Our author recommends this night work to prevent robbing." If he will read *carefully*, he will see that it is not recom-



APIARY OF FRANCES ELLEN WHEELER, OF CLINTON COUNTY, N. Y.

(Courtesy Reliable Poultry Journal.)

mended, only reported as being accomplisht, and that feeding toward night is recommended.

Prof. Cook believes the "A B C" wrong in teaching that honey from apple-bloom has a strong, rank taste like that from cherry-blossoms. He may be right; but this, like some other points to which he refers, was corrected in the edition just out.

In conclusion, we fear that Prof. Cook, overburdened with work like some of the rest of us, has not taken the pains to ascertain whether he himself is always correct upon all points. He is a pleasant writer—one whom the fraternity regards as authority; and whatever else we may say of him, he is actuated by the kindest of motives—a spirit that esteems others better than one's self.—*Gleanings in Bee-Culture.*



Advantages of Bee-Keeping for Women.

BY FRANCES ELLEN WHEELER.

IN the effort to encourage and lead women into rural occupations, there is a tendency to extravagantly exploit the advantages and minimize the difficulties; that is misleading and unfair. This is especially true regarding apiculture. Probably no industry has been more frequently and enthusiastically recommended to our sex than the care of bees. Certainly no outdoor work, in some respects, is so well adapted to our general make-up, or more thoroly fascinating and congenial. Thus far, our advisers are correct. Their mistakes arise from conveying to the novice an impression that the labor involved is of a light, superficial character, and that the profits are an assured fact, and to be confidently reckoned on. Some writers go still further, and state how many colonies the average woman can take care of alone, for an entire season, and what the returns will be for each colony.

Statistics look well on paper. Any one contemplating a new employment would feel better to know at the start just how much and how hard they must work, and what they will make at it. Some people are loath to undertake this enterprise unless they see in black and white the financial side of the question; which would be perfectly reasonable could the figures be relied upon. But in point of fact, there is scarcely any occupation where the unexpected is sure to happen, and the "unknown quantity" is so often to be reckoned with, as it is in an apiary; both as regards the labor involved and the profits received.

A little common-sense thought on the subject will show very plainly that no two women will do the same amount of work in an apiary (any more than they will anywhere else), or obtain the same results. And that in our country, where the climate and the local flora are so varied, the quality and quantity in the crop must also vary. Still more important,

the home markets range in prices according to locality for comb honey, all the way from 7 to 20 cents per pound; which affords quite a margin for speculation on returns. Moreover, is it fair to exact from this business what is not exacted from any other?

That an immense number of successful apiaries are scattered thruout our country is proof that bee-keeping pays. How near the "top-notch" can be reacht, each individual must demonstrate by practical experience. A good instruction book, a periodical, and a few colonies, at the start, will speedily tell the tale as to qualifications.

After a few experiences alone in the yard, our novice may decide (as I did) that it pays best, in the long run, to have a good, strong helper, and that to secure this when needed, some other industry must be combined with the apiary, which will give full occupation to both, and relieve the woman of the heavy parts; affording her leisure to oversee the important details, and attend carefully to her market.

Again, tho we have sections where the climate admits of an apiary being workt almost the entire year, it is not so in our northern and middle States. Also, our pastureage is such that there are many localities where apiaries of 80 to 100 colonies only can be workt, year in and year out, to good advantage. Yards of this size will not, of course, furnish an income sufficient for a comfortable living; but, with a comparatively small outlay of time and money, they will add very materially to it.

Something might also be considered of our returns which are not reckoned in dollars and cents. I refer to the growth in physical and moral health gained by the pure air and loveliness about us; the development of spiritual and intellectual perceptions; and, above all, the sense of helpfulness and fellowship with these wonderful little creatures; and commendation,

"Whatsoever thing thou doest,
To the least of Mine and lowest,
That thou doest unto Me."

Clinton Co., N. Y.



Something More About Bees Being Necessary to Pollenize Fruit-Tree Bloom.

BY THADDEUS SMITH.

THE advocates of the theory that bees are necessary for the complete pollenization of the bloom of fruit-trees lay great stress upon the necessity of cross-pollinating and seem to think that bees are the only agents to accomplish this. By cross-pollination is meant that there are some varieties of fruit-bloom deficient in pollen, and the pollen necessary to fructify them must come from some other variety of the same fruit that produces more pollen. That there

are a few varieties of fruit deficient in pollen, is well known to all intelligent fruit growers, and they know equally as well that it is not necessary to have bees to accomplish this cross-pollination, and do not depend upon them, but successfully manage it in another way. It is found that all that is necessary is, to plant these trees deficient in pollen, near some variety that produces pollen abundantly. In large orchards it is accomplished by planting the different varieties in alternate strips of several rows each, and thus complete pollination is obtained without the intervention of bees.

A familiar illustration of where cross-fertilization is sometimes necessary is found in the strawberry. Every one who has planted a strawberry-bed knows that there are bearing and nonbearing kinds—pistillate and staminate varieties. The pistillate varieties do not bear pollen, and in order to make them fruitful they must be planted near the staminate or pollen-producing varieties. By planting the two kinds in rows from four to six feet apart, the pistillate—those without pollen—are made to bear fruit abundantly. The pistillate blossoms do not produce honey or pollen, and consequently are not visited by bees or other insects; therefore they are not fertilized by them. But suppose the bees did visit them—they could carry the pollen from one to the other just as easily if they were six rods apart instead of six feet. But they are barren or nearly so, if planted six rods apart. But proof positive that they do not owe their fruitfulness to bees is that both varieties have made fine crops on these islands where there are no bees. Such a fact is worth a dozen theories. If pollen can be carried in the air from one to the other of these lowly plants that creep upon the ground, to the distance of six feet or more, and successfully fructify the bloom, could it not be carried a greater distance and more successfully from the elevated position on fruit-trees?

Growers of vegetables in greenhouses have found that for want of circulation of air, some varieties of vegetables did not bear well; and some have been induced to try putting a colony of bees in with their plants, and have found some benefit from it. The benefit was not, primarily, caused by the bees carrying pollen from one flower to another on their legs or bodies, but was caused by the stir in the air, or the little breeze, as it were, that was made by the wings of the bees while gathering and transferring pollen to the little receptacles on their hind legs, that dislodged the pollen and set it in motion to be borne in the air to other plants. In feeding flour to bees early in the spring as a substitute for pollen, I have watcht them with great interest while they were gathering and securing it in their pollen-baskets. They would gather the flour with their mouths and fore feet, and would sometimes wallow in it and get it all over their faces and bodies, and then they would rise, and with a peculiar fanning motion of their wings would keep themselves poised in the air just above the flour, while with their feet they were busy transferring the pollen from their front feet and bodies to the pollen-baskets, and by this motion of the wings they would create a little breeze that would blow all the flour off the board upon which it was fed. Pollen from flowers, whether in greenhouse or open air, is gathered and secured in the same way—placed in their pollen-baskets while on the wing, hovering over the flower, or while going from one flower to another, and as it is much lighter than wheat-flour, it is more easily dislodged and blown about in the greenhouse.

Up-to-date growers of vegetables under glass have long since discovered that the dislodging of the pollen and setting in motion could be accomplished without bees, and was equally as successful. They simply go thru the house with a light stick or rod and give each plant a gentle shake and the work of pollinating is accomplished! This corroborates my statement, that the benefit from the bees was because they put the pollen in motion.

The ways of the propagation of species in the vegetable, insect or animal kingdom, is "wonderful and past finding out," but it affords a theme for interesting investigation which should be conducted in an impartial manner for the purpose of arriving at the truth. It is possible and I might say highly probable, that there may be some occult affinity or attraction between the stigma and the pollen of flowers by means of which the infinitesimal particles of pollen that are always floating in the air during fruit-bloom, are drawn as by a magnet, to the stigma when a short distance only from it; and when we look at the results—so few failures even under adverse circumstances—it seems there *must* be something of the kind. But this is speculation, and I am set for the defense of facts.

It is a fact that bees are seen in flowers with pollen on

their feet and in their baskets, and they are seen to leave one flower and go to another with their pollen; but who *knows it to be a fact* that some of this pollen obtained from the first flower is left on the second one visited? Is there any way of finding out? And if it were left, do we know that this flower would *not* have produced fruit without the visit from this bee? I have known millions of flowers to produce fruit that never had a bee within six miles of them. If they will produce fruit in one place without bees, why not in other places? This claim is all conjecture based upon preconceived theory without a knowledge of sufficient facts to establish it as a truth; and when confronted with such undisputed facts as I have given in regard to growing fruit in maximum quantities and qualities without bees, it shows its weakness.

Since writing the foregoing, the American Bee Journal of March 14th has come to hand, containing an article on this subject from Mr. G. M. Doolittle. Mr. D. represents himself as discussing this subject with a neighbor who claimed that Mr. D.'s bees had injured his fruit crop by taking the honey from the bloom, and he wanted some of Mr. D.'s nice honey to pay for the damage. Mr. D. tells how he met this claim by proving to his neighbor that his bees were of great benefit to his fruit, instead of being an injury; and here is a sample of his proof:

"Going back to the creation of all things, all fruit or grain of any kind was an entire failure till insects were created to visit the flowers which secreted nectar, while those that did not secrete nectar bore fruit as perfect then as to-day."

This certainly is a new revelation as to the creation of things. But Mr. D. explains that "thus far all is a matter of conjecture." But nevertheless he represents himself as telling it to his neighbor, supposed to be less informed about such matters, as a matter of fact. With his explanation the statement is most absurd, even as a "conjecture."

"So far," he says, "is conjecture," and then he proceeds to make some other assertions in this very remarkable article, that are equally as fallacious; tho he intimates that he is thru with his "conjectures," and has made no further explanation. "From this I go on to explain how that the first object of nectar in the flowers was *not* for the perfecting of the fruit, or to be used as a food or luxury for man, nor even to sustain the life of the bees, but as a means to an end, and this end was that *insects of all kinds* might be drawn to the flowers so secreting, that the fruit or female blossoms of plants which could not possibly be fertilized in any other way, might be fertilized thru the agency of insects," etc. Another new revelation—seed and fruit bearing plants and trees were made, but they "could not possibly be fertilized" so as to bring forth seed to propagate their species until honey was placed in the flowers and then bees made to go after this honey in order to fructify the flowers. In the quotation given, Mr. D. places "*insects of all kinds*" in italics, in order to emphasize the assertion. If language means anything this includes the festive mosquito, the agile flea, the night-prowling bedbug, *et id genus omne*. This is too ridiculous to require further comment.

I have great respect for Mr. Doolittle as one of our most reliable teachers and writers on bee-keeping, and I have read his articles in the bee-papers for the last quarter of a century with great interest; but when Mr. D. leaves the subject with which he is familiar, and gives us such crude speculation as this article contains, for matter of fact, we want a more reliable teacher.

Pele Island, Ont., Canada.

A Celluloid Queen-Button is a very pretty thing for a bee-keeper or honey-seller to wear on his coat-lapel. It often serves to introduce the subject of honey, and frequently leads to a sale.



NOTE.—One reader writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of the buttons] as it will cause people to ask questions about the busy bee, and many a conversation thus started would wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."

The picture shown herewith is a reproduction of a motto queen-button that we have been furnishing to bee-keepers for a long time. It has a pin on the underside to fasten to the coat. Price, by mail, 6 cents each; two for 10 cents or six for 25 cents. Send all orders to the office of the American Bee Journal.

Questions and Answers.

CONDUCTED BY

DR. C. C. MILLER, Marengo, Ill.

[The Questions may be mailed to the Bee Journal office, or to Dr. Miller direct, when he will answer them here. Please do not ask the Doctor to send answers by mail.—EDITOR.]

Italianizing—Transferring—Painting Hives.

1. I have six colonies of black bees that did not swarm last season, but stored a little surplus honey, and have wintered in fair shape. Would it be good business to requeen them with untested Italian queens? If so, at what time in the season should it be done? I do not wish to prevent them from swarming.

2. I have four colonies that are on frames that have thin top-bars that sag with the weight of the combs, and some of the combs are not built straight so they can be handled easily. Would it pay to transfer them to Hoffman frames with full sheets of foundation? If so, at what time in the season should it be done? There have been bees in the combs for 10 or 12 years. I wish to secure comb honey altogether.

3. Would it do any harm to paint hives with the bees in them?

OHIO.

queen want to go down. Neither is there when two bees or several thousand have gone down. All that she knows is that there seems to be getting to be a scarcity of bees, and that's no reason why she should desert her post in the brood-nest. So you may about as well give up the scheme as impracticable.

You do not say whether your object is merely to clip the queen, or to get the bees to move their brood-nest below. In either case, you can drum or smoke out the bees, hunt out the queen and clip her, then return. If you want the brood-nest to be moved below, put the queen in the lower story, with an excluder on it, then place over it the old hive. In three weeks time the worker-brood will be all hatch out above, and you can do what you please with the upper story. If you do not want to drum out the bees, you might proceed another way: Put under the hive a story filled with foundation (all the better if you can give it a frame of brood), with no excluder between the two stories, and allow the bees to work down of their own accord. As soon as the queen becomes crowded for room above, she will move downstairs, and when you find eggs there you may look for her. Possibly you may not find her, for until about all the space upstairs is filled with honey she will keep going from one hive to the other. But your chances of finding her below will be constantly on the increase, and after you do find her, if you want the brood-nest to be below, you must use an excluder.

Before doing anything else, it will be well to make a thorough investigation in each case, and see if you can not find one, two, or three frames that can be taken out, and then the rest might be cut out and transferred correctly into the frames.

The Afterthought.

The "Old Reliable" seen thru New and Unreliable Glasses.

By E. E. HASTY, Sta. B Rural, Toledo, O.

MATING OF QUEENS IN CONFINEMENT.

The front picture on No. 12 resuscitates an old enthusiasm, or fad, or "image of something in heaven above," at the shrine of which we all did vainly worship in times past—until the missionaries of common sense gently led us away. Possibly they were misguided in doing so. "Go in," Mr. Hutchinson! go in everybody who can't be entirely "asy" in mind about our present breeding! I feel quite strongly that the power to mate the individual drone to one individual queen would do us more harm than good; but the present scheme does not contemplate that exactly. It contemplates mating an individual queen to a nature-selected drone of a man-selected colony. More good than harm would come of that I think, providing success could be had. As Mr. Hutchinson suggests, success must be theoretically possible, providing some one is willing to spend effort enough, and cash enough, in building big enough. But let me also revive a related idea. Those who live near great plains on which there is no tree or hollow crevice, and no bees, can perhaps have the same thing cheaper. Take your wagon and drive out a few miles upon the plain, carrying your drone colony and your nuclei with virgins. Little islands are apt to be abnormally cool just when you want them to be hot; and at such stations queens drown; but plains incline to be hot at 2 p.m.

Possibly I can suggest some improvements on the tent shown in the picture. Suppose we abandon the gasometer shape, and let the starting model of shape be that of a race-track roof in—track only, center circle not occupied. Then flying around and around insects can go as many miles as they wish in a course that will not require any halting and turning back. Suppose we abandon the netting and use cheap cotton cloth. Abundance of light will come thru it; and it removes most of the temptation to butt in the effort to get out. Cheaper, much stronger, makes up on the sewing-machine more kindly, holes which may develop will be visible instead of invisible—better every way (except perhaps the deadly didn't-think-of-it one), and excepting the obvious objection that it will take more wind, and need to be more strongly supported. But with cloth cover and race-track shape I don't believe it will need to be more than 16 feet high. Presumably it will be possible to fly young queens and drones in such a course in ignorance of the fact that there is any

Clipping Queens—Other Management.

I expect to have about 40 queens to clip this spring. They are mostly in standard hives, but there was no brood foundation used, and I expect the combs are not in very good shape to hunt for queens.

1. How would it work, to place a hive filled with foundation in frames under a colony of bees (or perhaps have one frame of brood and a queen), place a bee-escape between the two hives, and below the escape have a cage of perforated zinc? Would the bees go down and accept the lower queen, and the upper queen attempt to go down and get caught in the cage?

2. Would there be danger of draining the upper hive so thoroughly that the brood would be left to chill?

3. If this plan would work, how long do you think it would take to trap the queen from the time the escape was placed, in warm weather?

IOWA.

ANSWERS.—Instead of answering your questions in order, please allow me to bunch them. In the first place, unless you have queens "to burn," you may as well dismiss the idea of having a queen below. Your idea, no doubt, is to have the frame of brood and the queen there as a sort of attraction. Altho the brood would be to some extent an attraction, a strange queen would not. The probability, if not the certainty, is that she would be promptly balled and killed. Even if the bees should be friendly to the queen below, she would do no good. When there is a general stampede, and the bees leave the hive *en masse*, the queen goes with them. But in your scheme there is nothing of the kind. A bee leaves the hive in the regular course of its duties, and in doing so passes down thru the escape, and is unable to return. There is nothing about that to make the

more to the world. Before you build, and after you have got this crude ideal of shape well in your mind, you can push in two opposite sides of it until it is dumb-bell shaped instead of circular—hives to be at one of the bulbs. This modification will save one wall, save very greatly in the ground area required, and give greater strength against wind. The cloth at the sides can be arranged to pull up and tie at the top when not in use and thus offer little sail to a storm.

It will require considerable grace to do so, but I trust Mr. Davitte will be able to take it meekly if there are still "Thomases" in the world. Sixteen days for preparatory exercise strikes one as rather a big chunk cut out of the drone's life. The words, "the queen and drone fall *nearly* to the ground," are provocative of suspicion. They sound so dreadfully like they were "cut out mid shears" from the bee-literature of 25 years ago. A fall of less than 30 feet seems very inadequate to give time for twisting off a strong ligament by rotation. Page 181.

BEE-KEEPING AND PIANO-PLAYING.

Easier to learn apiculture than piano-playing, eh? Well perhaps. There's this about it—if you learn bees you suffer the torments yourself mostly; if piano is your choice the agony falls to the neighbors. Page 182.

ADULTERATION OF SUGAR COMMON.

Referring to Mr. Cowan's letter on page 211, I guess I shall have to admit that the adulteration of granulated sugar is getting to be common. Am using some now very pleasant to the taste, but nevertheless tasting as tho there might be an admixture of something. The hardness of grain and the straight-out sweet and nothing else do not seem to be there.

BUCKWHEAT BLOOM EARLY.

West Virginia, on page 185—what does he want buckwheat to bloom July 1st for? Perhaps it might be well to tell him that buckwheat made to bloom abnormally early is pretty sure not to yield honey to amount to anything—also pretty sure not to produce very much grain, either.



Conducted by Prof. A. J. Cook, Claremont, Calif.

"THE BEST CROP."

At one of our recent farmers' institutes, a lady had a paper on the subject of "The Best Crop." Of course no one could know whether she was to treat of beans, barley, or beets. We soon found that it was to be none of these, but was to be devoted to the children. And surely she was right. The boys and girls do certainly form the best crop, not only of the farm, but of any home be it in city or country. I wonder if any of us realize this fact as we should. How many of the children use tobacco; how many even smoke the harmful, not to say deadly, cigarette; how many seek amusement in the saloon; how many use profane language; how many tell or listen to the vulgar story, and often demean themselves by telling it themselves. Oh, how happy we are if we can keep our dear ones from all these debasing habits! We engage men to spend days, and keep a close watch of them all of the time as they break a favorite colt. Yet do we all give time to the children, and do we watch as closely, as their habits are being formed? Do we give an hour or two on each Sunday, perchance walking in the field, park, or woodland, and calling their attention to the many beauties that are scattered so thickly all about us? The father and mother who have not had these pleasures have mist one of the rarest sweets of life. The children who have not in their early, tender years enjoyed this rich fellowship, have had a most valuable part of their life left out.

I do not think there is any one thing in my whole life that I recall with more satisfaction and genuine pleasure than I do the Sunday walks with the dear wife and children. I found it so easy to beget in the children a love even for the creeping, crawling things. They loved and admired even the snakes, the frogs, and the caterpillars. Who has not admired the stanza from the poet?

"He prayeth best who loveth best,
All things both great and small;
For the dear Lord who loveth us,
He made and loveth all."

* Can we help our children more than to lead them to love and admire God's handiwork at the very threshold of their lives? If we can couple with this in their young minds a full appreciation that all the good things are from God, we have given to them an invaluable possession. I would rather my child would have a perfectly realizing sense that God was all about him, loved him, cared for him, and was the Great Giver of all the beauty about us, than any other one thing. No father should be so busy that he could not take these Sunday walks with the dear children.

Is it not also true that the club or street-corner talk should be very valuable indeed if it robs the children of the time and sympathy of the father? How many fathers carry a life-long burden because of wayward children! I just heard a day or two ago of a good Christian man who lives close by us, who has also been a life-long minister of the gospel, whose son has dipt into all the bad things that smirch the life and character, I have known the boy, and his face tells the story of his reckless life. I believe all this burden of sorrow might very likely have been avoided had the father found time during the boy's early years to have taken walks, read to him the Youth's Companion or other good paper, given him some chickens, and then taken the interest in him that is always so pleasing to the boy or girl.

I remember once in a lecture before the Chautauqua Association, in speaking of inciting in children a love of Nature. I made what I feared at the time was a rash assertion. I said that I believed that up to twelve years of age, if Barnum's "Greatest Show on Earth" were to come our way, and I had said to my boy and girl, "We will take the day off, and go to the circus or for a walk in the woods—which shall it be?" I believed that they would have elected the walk in the woods. As I bethought me of the circus, the fine horses, the rapid and dizzy riding, the wondrous jumping, swinging and wrestling, I feared that I had perhaps made a reckless statement. After the lecture, I askt my grown daughter who was present, if I had done so. She said, "No, indeed. I am sure we should have gone for the walk."

It is assuredly true that the children are the best crop of the farm. Time, effort, energy, spent in keeping them interested in good things is the best kind of cultivation. I have often wisht that I had money so that I could put the Youth's Companion into every home of the land. Next to our personal attention, nothing will help so much to lift the children from all that is mean and unseemly as good papers and books. These are now so cheap that no home need be without them. We have had many illustrations here at our college that the boy or girl of good stuff need not even go without a college education. Energy, determination, vim, can even give this best of riches with no outside help at all. How much easier to secure the good book, the good paper, for the children.

CHILDREN IN THE CITY.

How many of our good friends live in the close quarters of the city, perhaps in a flat where a few feet of ground in front and back form the only seclusive places for the children. The children must have air and sunshine. Without these, pallor, weakness, disease, are sure to come. Left to the street, and all kinds of companionship will be theirs. Impudence, rudeness, often even the vilest vulgarity will be poured into their ears. Surely, no mother can contemplate this without a dread and horror that will do its utmost to bring invention to the rescue. I have a friend who has just this problem to solve. Her husband's business makes it almost impossible to escape the narrow limits of the city flat. The back yard is about 30x40 feet. This is boarded up so as to shut out the street children, and give the seclusion which is so imperative to the best good of the children. Lovely vines have converted the rude board fence into a thing of beauty. A hammock, screen to protect from the sun, pile of clean sand for the thousand and one things that the little architects will design, some clay to be used in moulding, blocks, brick, etc., all make that back yard a veritable paradise for the wee children. Other children in the neighborhood long to gain admittance to this little fairyland, and are themselves moulded into goodness as they know that the most perfect conduct is the only key that unlocks the door.

Thus this mother has not only solved the immediate problem for her own children, but she has a center of good influence which is throwing its wholesome beams all thru that section of the city. Whenever the busy mother can do so, she takes the children to the parks and there talks of birds, insects and even creeping things, for she learned to know and love these things when she was little, and she is handing these same bits of knowledge over to the eager children which have come to bless her home.

A friend at my side asks, "How about the coming years?"

This mother has thought this out, and has planned to live so economically and plan so well that as the children get older they can move into the suburbs, and there with garden, poultry and bees, the children may have that which will not only give them wholesome employment, but which will also interest them in the real, vital things of life, and thus prepare them for the sterner duties which will come in their later years. We see that this mother has devoted a great deal of time and thought that she may give her children an abundance of the good things, and keep from them anything that would poison character and vitiate the life. Ought we not all to do the same thing? Ought we not for our own good and also as a patriotic duty? Mr. Woodward, so well and favorably known in the State of New York, once told me that no man should be content to leave this world until he could leave behind children who were brighter and better than he. I believe he said truly. We can hardly hope to realize this happy experience unless we give earnest heed to this "best crop of the farm."

INFLUENCE OF GOOD EXAMPLE—TRUTHFULNESS AND HONESTY.

I believe the best cultivation that can be given this crop is that of wholesome example. How few of us that are parents are careful enough in this respect. Our words are not such as becometh the Gospel of Peace or our high position as parents. The rude slang, the profanity, the sarcasm, the thoughtless wit, all these should be kept away from the home circle. Ought we not to form an idea of just what we want this best crop to be? Then, ought we not with most earnest, prayerful effort strive to make our own lives conform to this ideal? The most blessed thing in character is absolute truthfulness. Are we careful enough that there shall be no lie in our lives? How quickly even the little deception will be detected by the child. If such deception beget in them a lack of genuine truthfulness, then we have sown the biggest tares in our best crop of the farm.

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Having been 28 years rearing Queens for the trade on the best known plans, I will continue to rear the best.

PRICES:

One Untested Queen	\$1.00
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Belgian Hares

Choice, pedigreed and common stock; youngsters, \$3.00 per pair. Write for description and prices.
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Northern Italian Queens!

Raised from Imported Mothers.

Our stock is so carefully bred and selected, as to secure car-loads of honey. Locality free from foul brood and other bee-diseases. Prices: 1 untested Queen, \$1.00, or for \$5.00; 1 tested Queen, \$1.50, 6 for \$7.50; best imported Queens, \$6.00; fair imported, \$5.00.

ADA L. PICKARD,
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GENERAL ITEMS

Bees Wintered Poorly.

Bees have wintered poorly in this locality. I don't believe the working force will exceed one-half of what it was last year. The careless bee-keepers have lost heavily, and some have nothing left but empty hives and experience. One of my apiaries which contained 116 colonies last fall has been reduced to 95, on account of insufficient stores and a cold cellar. The bees in my other two apiaries wintered well, the loss being only 3 colonies out of 241, and all are apparently in good condition.

A. G. WILSON.
Vernon Co., Wis., April 12.

Prospects for a Good Fruit-Bloom.

Spring in this locality is late, wet and cold, but there will be an unusually good fruit-bloom, and the ground is being covered with a carpet of white clover, so we are hoping for a good season.

JOHN W. BEATTY.
Clay Co., Mo., April 18.

Winter Losses.

The past winter was a hard one on bees in this vicinity. I put 12 colonies into winter quarters, and 11 of them came thru all right, but they will require a great deal of feeding. One bee-keeper here had 30 colonies last fall, and has lost 14 of them so far. I think he will make a successful bee-keeper, for to work with them is his "meat and drink."

JETHRO WILSON.
Watauga Co., N. C., April 8.

Bees Will "Ring Him Up" When Swarming.

I have a plan in my mind whereby I believe I can make the bees "ring me up" when a swarm issues. I shall work on the theory that when a swarm issues they pour out of

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 212 free. W. Chester, Pa.

Next to truthfulness, honesty holds first rank. The child, the man, the citizen, are not what the home, the community, the country, stand in pressing need of unless transparent honesty gilds the life. Who has not felt grieved to the quick as they have heard the father, perhaps about the tea-table, tell with great rejoicing how in some bargain or trade during the day he has cheated a stranger or neighbor to the tune of many dollars? Oh, that he could know what a black eye he was giving to the forming character of the child as he tells of any such experience as that given above.

KEEPING LITTLE HANDS BUSY.

I think one of the most helpful things in the best development of this "best crop of the farm" is the keeping of the little hands busy. This is one of the things which glorifies farm life. How difficult always to furnish the city boy with wholesome employment. On the farm it is not difficult at all. If we give the boy the bees, the chickens or the calf, which he is to care for, we will make this labor at the same time recreation. I know of a father who incited such interest in bees and chickens in his children that they were not only both of them induced to become great readers and students, but they were led into habits of industry and were each enabled to make money, independent of the father, enough largely to defray their expenses in getting a college education. When I was a boy, my father always kept me at work. While I was rarely ever late at school, I never got there much before the opening hour, and tarried afterwards at my peril. I thought then, at times at least, that my lot was a hard one. How many times since have I blest my good father's memory as I have learned to appreciate his wisdom, and have seen its fruits in my own life.

The parent who succeeds in developing habits of industry and a love of good, honest work in the child, has certainly workt in the very best way to secure the best fruitage in the best crop of the farm.

1860—1901 THOSE LONG-TONGUED ADELS!

WHITE ROCK, MINN., April 10, 1901.
The Adel Queens I got from you are more than you claimed for them. I want 6 more.—
S. W. JACKSON.

ONECO, CONN., April 15, 1901.
The Adels have wintered finely, and I like them very much. I want more Queens. Send price list.—REV. T. B. MOWRAY.

I guarantee any Queens sent out from my apiary and sold for \$1.00 each to be as good as any \$10 Queens sold by any dealer. PRICE-LIST NOW READY.

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at prices that are the lowest. Catalog giving

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with prices and samples, free on application.
BEESWAX WANTED.

GUS. DITTMER, Augusta, Wis.
Please mention Bee Journal when writing.

May 2, 1901.

the hive with such a rush that a number of them accumulate in front of the hive on the ground or on the alighting-board.

I would like to ask the following questions of just as many bee-keepers as will answer thru the "Old Reliable," and when the answers are published I will give my plan with some photographs in this Journal:

1. When a swarm issues do the bees pour out of the hive with such a rush that they can not take to their wings fast enough, and consequently pile up in front of the hive to the amount of a half pound or more?

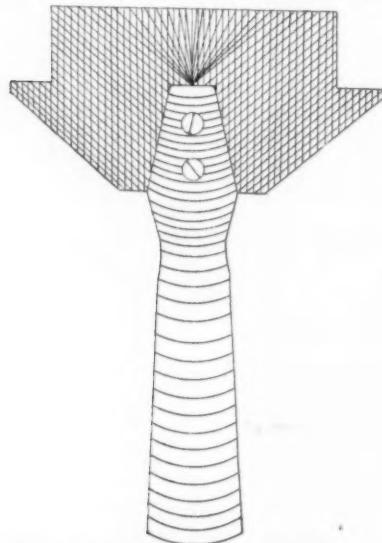
2. When a prime swarm issues, is the queen one of the last to come out of the hive?

A. B. GINNER.

Hardin Co., Iowa, April 13.

Handy Little Apiarian Tools.

I enclose a drawing of a little tool that I made for fastening "starters" in sections. The cut is about two-fifths of the full size, and will do the work as fast as any tool I know of. I use two of them, keeping one in a dish of hot water on a small kerosene stove, changing when one gets too cool. There is no wasting of foundation by melting, as with most of the high-priced, patented affairs. I made mine out of a broken saw blade, but a piece of heavy tin doubled, with the ends



toward the handle, will answer every purpose. The point should be rounded, not sharp, to avoid cutting the foundation in two.

I also have a small scraper for scraping propolis from sections, supers, etc., made in the same way, of steel, only the point is turned down and kept sharp. This beats the Golden section-cleaner out of sight. I use it to clean the tops of the sections before removing them from the super, and can do the whole 24 in the time it used to take me to do one with the Golden method.

Reading an article in the Bee Journal some time ago, suggesting that bee-keepers tell each other of any little thing they think might be helpful, is what prompted me to submit the above mites.

A. F. FOOTE.

Mitchell Co., Iowa.

Pickled Brood—Introducing Queens.

Pickled brood, in this locality, is of little moment. Colonies of Italian bees are not troubled with it. I have cured many cases among blacks and hybrids, simply by introducing an Italian queen. When her bees predominate the disease disappears. I am quite sure that pickled brood is not a starvation disease, as newly-hived swarms, gathering honey and pollen freely, have shown it in their first brood.

I successfully introduced over 50 queens, both home-bred and from a distance, to colonies in almost every possible condition, during the season of 1900. I used the Miller cage, pasteboard tacked over the candy. The pasteboard must be a little narrower than the hole



BEE-KEEPERS' SUPPLIES XX

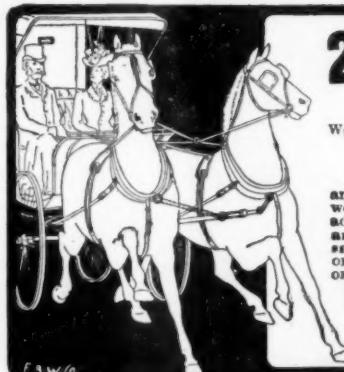
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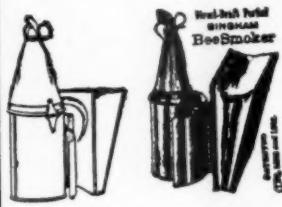
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Made of sheet brass, which does not rust or burn out; should last a lifetime. You need one, but they cost 25cts. more than tin of the same size. The little open cut shows our brass hinge put on the 3 larger sizes. No wonder Bingham's 4-inch smoke-engine goes without puffing, and does not drop inky drops. The perforated steel fire-grate has 381 holes to air the fuel and support the fire.

Heavy tin smoke-engine, 4-inch stove, per mail, \$1.50; 3½-inch, \$1.10; 3-inch, \$1.00; 2½-inch, 90c; 2-inch, 65c. Bingham smokers are the originals, and have all the improvements, and have been the standard of excellence for 22 years. Only 3 larger ones brass.

BIRNAMWOOD, Wis., April 10, 1901.

DEAR SIR:—Please send per mail one 3½-inch brass smoker. A decade's experience has convinced me that the Bingham is the best. Respectfully, M. P. CADY.

The Leader for 25 Years.

Bingham invented and patented all the real improvements made in Bee-Smokers and Uncapping-Knives in the last 25 years, and has introduced all the different sizes now advertised. Every bee keeper having a smoker that will not go out is indebted to Bingham for its invention. If you buy a Bingham Smoker or Uncapping-Knife you are sure to get the best, and show that you appreciate valuable inventions. We make different sizes to suit all. No one has ever written or said that our 4-inch Engine is too large, but many of the best bee-keepers think it perfect.

T. F. BINGHAM, Farwell, Mich.

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which it covers. The thin shipping-tags used by express companies are made of just the right kind of pasteboard for this purpose.

After several years' experience with the Doolittle and Pruden methods of queen-rearing, I prefer the Doolittle plan. With a quill I can transfer just as small larvae as Mr. Pruden can move, "baby, cradle and all," and no combs mutilated.

To keep up with the times, I have been measuring the tongues of bees from several of my colonies. The variation in length is surprising. The longest-tongued bees that I have yet measured are from the granddaughter of an "Adel" queen. Their tongues measure from .25 inch to .24 inch from the base of the sub-mentum to the tip of the ligula. This colony built combs for me all last summer, brood was taken from them frequently, yet they gave a small surplus, and had more winter stores than any other colony in my home yard.

The bee-keepers of South Dakota have experienced some of the advantages of co-operation. Supplies were purchased thru our State association. For many of our members the saving of supplies alone many times repaid the membership fee of one dollar.

Perhaps for those who will use quilts on hives nothing is so good as Dr. Miller's quilts with several layers of newspapers between, says one of my neighbors who has used many of them.

Bees have wintered perfectly, both indoors and outdoors. E. F. ATWATER.

Yankton Co., S. D., March 1.

Report from Southern Georgia.

I began bee-keeping in 1897 with 5 colonies, and have made a great many mistakes, as most beginners do. I now have a small apiary of 27 colonies, which I run entirely for comb honey, as I find a better demand for it in my local market than for the extracted honey.

I live in southern Georgia, where we have no severe winters, and my bees are left on the summer stands in single-walled hives the year around, without the loss of a single colony in wintering.

I hived a swarm April 5th which weighed 15 pounds, and have put some supers on. Our main honey-flow begins about May 1st, and lasts until about July 1st. I take off the supers about July 15th, and let them build up for winter. I lose two or three colonies every spring from spring dwindling.

There is no apiary within 8 miles of mine. I like bee-keeping, and also like the American Bee Journal, and think that no bee-keeper ought to try to get along without it.

H. T. HANNA.

Decatur Co., Ga., April 13.

Successful Cellar-Wintering.

Our bees came out booming this spring. From 400 colonies placed in the cellar last fall we have lost only 10 colonies, so I think we will have some bee-business this season. Our imported queens wintered very well, and came out with plenty of brood in their hives. Many of the bee-keepers in this section report heavy losses. We attribute our success in wintering to the bees having plenty of good food, good cellars, and last, but not less important, good, young, prolific queens.

ADA L. PICKARD.

Richland Co., Wis., April 17.

Rendering Beeswax.

Having seen and read a good many articles in the American Bee Journal about rendering wax from old brood-combs, and about its being such an awful job, perhaps I can help some of those who think it so, by giving my plan. I think the solar wax-extractor is a slow process unless one has but a few colonies. I have tried a number of different ways, and I think the following is "king of all," both for rapid work and ease:

I have made what I call a "jack press." It is 10x16 inches, inside measure, the posts and beams are 4x6 oak, the bottom is made of 3-inch planks, and the ends and sides are made of one-inch pine with one-inch slots left on

QUEENS!

Improved Golden and Leather-colored Italians are what H. G. QUIRIN rears.

We have one of Root's best long-tongued Red-Clover Breeders from their \$200 queen, and a Golden Breeder from Doolittle, who says if there is a BREEDER of golden bees in the U.S. worth \$100, this one is worth that sum. The above breeders have been added to our already improved strain of queens for the coming season. J. L. Gandy, of Humboldt, Nebr., wrote us on Aug. 5th, 1900, saying that the colony having one of our queens had already stored over 400 pounds of honey (mostly comb); he states that he is certain that our bees work on Red Clover, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials.

After considering the above evidence, need you wonder why our orders have increased each year? Give us a trial order and be pleased. We have years of experience in mailing and rearing queeens. Safe delivery will be guaranteed, and instructions for introducing sent with each lot of queens.

QUEENS NOW READY TO MAIL.

Prices before July 1st:

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Warranted stock.....	\$.75	\$ 4.25	\$ 8.00
Selected warranted.....	1.00	5.00	9.50
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Extra selected tested, the best that money can buy, 4.00

Folding Cartons, with your address printed on in two colors, \$4 per 1,000; 500 for \$2.75.

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each side of the bottom, these being covered with wire cloth so that the wax can pass thru. I also use a sack made of burlap with square bottom the size of the inside of the press. I have another plank to fit loosely in the press, which I set the jack on. I use a jack with 2x10 inch screw. Set the whole thing on a large tub or trough with some water in it, and I am ready for business.

I boil about 25 or 30 combs at a time in an old wash-boiler, having it as hot as I can make it. I have the sack in the press all ready, pour the boiling wax into it, fold down the sack, lay on the loose plank, screw down the jack, and the work is done. I can press it as dry as pomace that comes from a cider-press. After having done all this I refill the boiler, and let the next lot get hot while I am pressing the first. If the press is made strong, and the work is done right, from 250 to 300 combs can be pressed in a day.

WM. HOUSEL.

Hunterdon Co., N. J., March 21.

Prospects for a Good Honey Crop.

I put 11 colonies into the cellar last fall, but they were not very strong, so I lost 4 of them. Last season was a very poor one for bees in this part of the State, but the prospects are for a good honey crop this year.

ALBERT GOETSCH.

Dodge Co., Wis., April 19.

How the "Robber-Bees" Were Quelled.

I had a little experience once with bees when I first commenced in the bee-business. I had read up on the subject of bee-keeping, and considered myself competent to care for and manage an apiary. I soon started out in quest of bees, and purchased two colonies in box-hives. This was in early spring. I kept close watch to see that all was well with them, and everything went well the first day. The second day trouble came. One of my hives was full of honey and bees, the other one was light in both.

About 1 p.m. I noticed there was something wrong in the apiary. I soon discovered just what the trouble was—they were robbing my best colony. I thought how very fortunate I was to have learned just how to manage a bad case of robbing like the one I now had to deal with.

I sent one member of the family after straw, another after water, and myself after the sprinkler. I soon had the front of the hive, which was being robbed, piled high with straw, and the sprinkler running full time. But what perplexed me was, the bees kept piling into the hive, and none came out, but soon all was quiet. I had conquered them. I decided then and there that I was well informed in all the branches of bee-keeping.

I didn't learn my mistake till the following day, when the bees again (as before) came out for their daily play-spell.

A. E. WILLCUTT.

Hampshire Co., Mass.



Value of Honey as Food.

"Comparatively few to-day know the great value of honey both as a food and a medicine. Were its value as a medicine thoroughly known, it would displace in hundreds of families the domestic remedies or quack compounds now depended upon by them as 'cure-alls.' If every bee-keeper in the country would write a series of articles for his local weekly newspaper upon the value of honey for food and medicine, it would soon create a demand, to supply which would require a much larger quantity than is now produced."

Thus says a writer in one of our agricultural papers. While there may not be in the claims made, all the writer thinks, yet in them is something worthy of thinking about. If honey is really the good thing we bee-keepers

May 2, 1901.

**Tennessee Queens!**

Fine lot of Choice Tested Queens reared last season, daughters of select imported and select golden queens, reared 3½ miles apart, and mated to select drones, \$1.50 each; untested warranted Queens, from same breeders, either strain, 75c each. No bees owned nearer than 2½ miles. None impure within 3, and but few within 5 miles. 28 years' experience. Discount on large orders. Contracts with dealers a specialty. JOHN M. DAVIS,
6A26t Spring Hill, Tenn.

Please mention Bee Journal when writing

California! If you care to know of its Fruits, Flowers, Climate or Resources, send for a sample copy of California's Favorite Paper—

The Pacific Rural Press,

The leading Horticultural and Agricultural paper of the Pacific Coast. Published weekly, handsomely illustrated, \$2.00 per annum. Sample copy free.

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LANGSTROTH BEE-HIVES, ETC.

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1901—Bee-Keepers' Supplies!

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Do You Want a

High Grade of Italian Queens

Or a CHOICE STRAWBERRY?

CHICAGO, ILL., Jan. 28, 1901.

D. J. BLOCHER, Esq., Pearl City, Ill.
Dear Sir:—Your quotations on 48 untested Italian Queens, ready for delivery by May 18, 1901, at hand. It being the first offer out of several inquiries, and, besides, you having promptly favored me with queens last year, you may, in appreciation thereof, have the order.

Yours truly, L. KREUTZINGER.

Prices for May and June:

Number of QUEENS.....	1	6	12
GOLDEN QUEENS.			
Untested.....	\$1.00	\$5.00	\$9.00
Tested.....	1.25	7.00	11.00
Select Tested.....	2.00	10.00	17.00
Breeders.....	5.00		
HONEY QUEENS.			
Untested.....	\$1.00	\$5.00	\$9.00
Tested.....	1.25	7.00	11.00
Select Tested.....	1.50	8.00	13.00

Safe arrival guaranteed. Descriptive price-list free.

D. J. BLOCHER, Pearl City, Ill.
14E6t Please mention the Bee Journal.

CAREER AND CHARACTER OF ABRAHAM LINCOLN.

An address by Joseph Choate, Ambassador to Great Britain, on the career and character of Abraham Lincoln—his early life—his early struggles with the world—and his character as developed in the later years of his life and his administration, which placed his name so high on the world's roll of honor and fame, has been published by the Chicago, Milwaukee & St. Paul Railway, and may be had by sending six (6) cents in postage to F. A. Miller, General Passenger Agent, Chicago, Ill. 18A3t

think it is, are we doing right in not publishing the matter more? Are we not "hiding our light under a bushel" the most of the time, when, by letting it shine brightly all the time, we might honor our calling by leading others to partake of the good which comes to the world thru that best of all sweets—honey? —G. M. DOOLITTLE, in the Progressive Bee-keeper.

Load a Worker-Bee Can Carry.

A Stray Straw in Gleanings in Bee-Culture says: "A worker, according to Alex. Astor (Rev. Int.), can carry about an eighth more than its own weight when honey is given to it. The maximum load of nectar brought in he found to be (about June 1st) 65.5 milligrams (a little more than three-fourths its own weight); and from then to Aug. 3d the weighings showed 50 mg., 45, 40, 28, 25, 18, 16, 10, 0." [It appears, then, that a bee can carry more of honey than it can of nectar—not larger in bulk, but greater in weight. These figures are very interesting.—EDITOR.]

A Queen Between the Lips.

A pointer for those who, like myself, are forgetful: Here is a queen I wish to remove. The hive is all open; I hold in my hands the frame she is on, but I have no cage! It is a long way back to the honey-house; the sun is hot, and robbers have found us. If I place the frame back into the hive in order to go and get the cage, I shall miss the queen; I can do nothing so long as this frame is in my hands. I want that queen! What shall I do? Simply place her, head in, carefully between the dry lips, close the hive, and then go and cage her. See?

I hold cells, root in, the same way, very often.—"SWARTHMORE," in the American Bee-keeper.

Good Apriarian Advice.

Produce what your market calls for; this will be both comb and extracted honey. Some customers will want comb, and some extracted—please both. Bottle nothing but first-class honey. Furnish this to the grocers around you to sell on commission, as many will sell in this way who would not purchase outright. Call all your wits into play, and remember, it is as honorable to sell honey as to sell wheat or potatoes. Give good weight, and you will soon work up a good trade, and get retail prices for your goods.—F. P. CLARE, in the Bee-keepers' Review.

Railroads Against Comb Honey.

Referring to the fact that the Grand Trunk railway in Canada has ruled out a class of honey as freight, and to the information given in a previous number of this journal as to contemplated action on this side, the editor of Gleanings in Bee-Culture expresses himself in the following vigorous style:

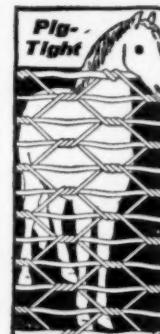
I regard this as a most serious matter. I can not think of anything that would handicap bee-keeping any more, unless it be foul or black brood, than to have the railroads practically refuse to handle comb honey. We can not afford at the present rate to send any quantity by express; and if the new freight-classification should go thru, we could not afford to send it by freight. Many large aparies would be totally unable to dispose of their product, and the industry would not

Bees = Supplies

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... BULL - STRONG ...
With our Duplex Automatic Ball Bearing Woven Wire Fence Machine, any farmer can make 100 styles, and from 50 to 70 rods a day of the best and most practical fence on earth at a cost for the wire to make it from 20 to 30c. per rod
We sell Ornamental Fence and Gates, Plain, Barbed and Coiled Spring Wire direct to the farmer at wholesale prices. Catalogue free.
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Box DM, Muncie, Ind.

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The Rural Californian

Tells all about Bees in California. The yields and Price of Honey; the Pasturage and Nectar-Producing Plants; the Bee-Ranches and how they are conducted. In fact the entire field is fully covered by an expert bee-man. Besides this the paper also tells you all about California Agriculture and Horticulture. \$1.00 per year; 6 months, 50 cents. Sample copies, 10 cents.

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Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 50 chaff hives with 7-in. cap, 100 honey racks, 500 brood-frames, 2,000 honey boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this saw. It will do you say it will." Address, W. F. & JOHN BARNES, 995 Ruby St., Rockford, Ill.
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THE MODERN FARMER & BUSY BEE.

EMERSON TAYLOR ABBOTT, Editor.

A live, up-to-date Farm Journal with a General Farm Department, Dairy, Horticulture, Livestock, Poultry, Bees, Veterinary, Home and General News. Edited by one who has had practical experience in every department of farm work. To introduce the paper to new readers, it will be sent for a short time to New Subscribers, one year for 25 cents. Sample copies free. Best Advertising Medium in the Central West. Address,

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16Atf MINNEAPOLIS, MINN.

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only be crippled but almost annihilated. I have already laid the matter before General Manager Secor, of the National Bee-Keepers' Association. Action should be taken at once, it seems to me, because it is far easier, according to our experience, to prevent a bad classification getting on the tariff-books than to have such classification rescinded after it is once in force. Why, our Association could better expend every dollar in its treasury rather than have such a foolish, unreasonable, and uncalled-for discrimination against our industry. I am sure that our worthy general manager will take suitable action at once. In the meantime, the Ontario Bee-Keepers' Association in Canada should see what could be done to have that unjust ruling of the Grand Trunk railway rescinded. It is apparent that the proposed action on *this side* of the line was instigated by the fool ruling of the Grand Trunk on the other side; and as long as it stands thus, so long it will be a menace to us.

CONVENTION NOTICES.

Illinois.—The spring meeting of the eastern division of the Northern Illinois Bee-Keepers' Association will be held at the residence of B. Kennedy, 7 miles southeast of Rockford, Ill., on Rural Route No. 5, and 3 miles northeast of New Milford, Ill., Tuesday, May 21, 1901. All interested in bees are cordially invited to attend.

B. KENNEDY, Sec.

Connecticut.—The Connecticut Bee-Keepers' Association will hold its next meeting at New Haven, in the Aldermanic Chamber of the City Hall, on Church Street, Wednesday, May 8, 1901, at 10 a.m. Among the topics for discussion are these:

With how many colonies did you begin the winter? How many colonies have you now? To what were the losses due? Which do you prefer, black or Italian bees? How many

frames of honey do you allow a colony for winter? What about feeding syrup in paper bags? Have you tried keeping two queens in one colony? For the ordinary bee-keepers, are artificial or natural methods better? Do you ever have moldy combs? When did your bees take their first good flight this spring? What kind of feeders do you use? Do you prefer a large or small hive? When do you get the best honey crop?

Your presence is earnestly requested.

ELLEN B. PECK, Sec.

ALBINO QUEENS If you want the most prolific Queens—if you want the best honey-gatherers you ever saw—try my Albinos. Untested Queens in April, \$1.00; Tested, \$1.50. 11A26t J. D. GIVENS, LISBON, TEX.

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Catnip Seed Free!

We have a small quantity of Catnip Seed which we wish to offer our readers. Some consider catnip one of the greatest of honey-yielders. We will mail to one of our regular subscribers ONE OUNCE of the seed for sending us ONE NEW subscriber to the American Bee Journal for a year with \$1.00; or will mail to any one an ounce of the seed and the American Bee Journal one year—both for \$1.30; or will mail an ounce of the seed alone for 50 cents. As our stock of this seed is very small, better order soon.

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Red Clover Queens

LONG-TONGUED BEES ARE DEMANDED NOW.

ONE Untested Italian Queen FREE as a Premium for sending us TWO new subscribers to the American Bee Journal for one year (with \$2); or, one Tested Queen free as a premium for sending us FOUR new subscribers with \$4.00.)

We have arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us the coming season. His bees average quite a good deal the longest tongues of any yet measured. The Breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red clover honey last season.

Orders for these fine, "long-reach" queens will be filled in rotation—"first come, first served"—beginning about June 10th. It is expected that orders can be filled quite promptly, as a large number of nuclei will be run. All queens will be guaranteed to arrive in good condition, and all will be clipt, unless otherwise ordered.

CASH PRICES of these fine queens will be as follows: Untested, \$1.00 each; Tested, \$2.00 each. Send all orders to

GEORGE W. YORK & CO.

144 & 146 Erie St., CHICAGO, ILL.



HONEY AND BEESWAX

MARKET QUOTATIONS.

CHICAGO, Apr. 18.—Choice grades of white comb honey sell at 16c, and there is no surplus in sight. Other grades of comb sell fairly well at the following prices: No. 1 grades of white, 14@15c; off grades, 13c; light amber, 12c; dark amber, 10@11c; buckwheat and other dark combs, 9@10c; candied and mixt colors, 7@9c. Extracted is dull, and prices very weak, with the exception of some fancy linden and clover grades, which is quotable at 7@8c; ambers, 6@7c; dark and buckwheat, 5@6c. Beeswax, 30c. R. A. BURNETT & CO.

BUFFALO, Apr. 18.—Fancy white comb, 15@16c; poor, dark, etc., 8@13c, as to grade. Demand good on fancy. Beeswax, 20@25c, as to grade. BATTERSON & CO.

OMAHA, Apr. 25.—There has not been any change in the condition of the market nor in prices during the last month, and we do not look for any change until new crop makes its appearance. There is not any more stock held in this part of the country than will be used up at the present range of prices. We quote fancy white comb, 15@16c. Extracted, slow sale, 7@8c for white. PEYCKE BROS.

DETROIT, Apr. 18.—Fancy white comb, 14@15c; No. 1, 13@14c; dark and amber, 10@12c. Extracted, white, 6@7c; amber and dark, 5@6c. Beeswax, 27@28c. M. H. HUNT & SON.

NEW YORK, March 19.—Our market is virtually bare of comb honey, and there is a fair demand for all grades. Fancy white is still selling readily at from 15@16c; No. 1 white at from 12@14c; amber at from 12@13c; buckwheat, 10@11c, according to quality and style of package.

As to extracted, the market is quiet and inactive and a certain amount will have to be carried over again. Prices are declining somewhat, and if the honey is not moved in large lots, concessions will have to be made. We quote: California white, 7@7½c; light amber, 6@7c; other grades and Southern, 65@75c per gallon. Beeswax very firm at 28@29c, and for exceptionally fine yellow, 29c.

HILDRETH & SEGELEK.

CINCINNATI, Apr. 18.—The demand for comb honey is nearly over. The stock of it also well cleaned up. Fancy white brings 16 cents. Extracted is in fair demand; dark sells for 5½c; better grades bring 6@7½c; fancy white clover from 8½@9c. C. H. W. WEBER.

KANSAS CITY, Apr. 18.—There is very little honey offered, and the demand is steady, selling from \$3.50@\$3.90 per case, fancy white; no amber on the market at this time. Extracted, no change; white, from 8@9c; amber, there is a little on this market that could be sold from 7½@8½c. Beeswax scarce and demand good, at 25@28c. W. R. CROMWELL PRODUCE CO., Successors to C. C. Clemons & CO.

ALBANY, N. Y., Apr. 19.—Honey market quiet. Light supply and light demand now. The stock is well cleaned out, so will be no old honey to carry over this season. H. R. WRIGHT.

BOSTON, April 4.—Fancy No. 1 white in cartons, 17c; A No. 1, 16c; No. 1, 15@16c, with a fairly good demand. Absolutely no call for dark honey this year. Extracted, white, 8@8½c; light amber, 7½@8c. Beeswax, 27c. BLAKE, SCOTT & LEE.

SAN FRANCISCO, April 3.—White comb 12@13 cents; amber, 9@11c; dark, 6@6½ cents. Extracted, white, 6@6½c; light amber, 4½@5c; amber, 4@4½c. Beeswax, 26@28c.

Despite general expectations and contrary to experience of previous years, new honey is reported on market. For some new amber extracted from Ventura county 6 cents is asked, but this is above the views of buyers. Old is still offering in moderate quantity, both comb and extracted, mostly amber.

WANTED By young woman, position to assist in apiary.
MISS WHITE, 3915 Prairie Ave., CHICAGO, ILL.

BEES QUEENS
Smokers, Sections,
Comb Foundation
And all Apiculture Supplies
cheap. Send for
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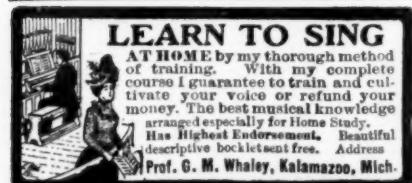
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Our Falcon Sections and New Process Foundation are ahead of everything, and cost no more than other makes. New Catalog and copy of THE AMERICAN BEE-KEEPER free. Address,

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SWEET CLOVER

And Several Other Clover Seeds.

We have made arrangements so that we can furnish Seed of several of the Clovers by freight or express, at the following prices, cash with the order:

	5lb	10lb	25lb	50lb
Sweet Clover (white) .....	.70c	\$1.20	\$2.75	\$5.00
Sweet Clover (yellow)	\$1.50	2.80	6.25	12.00
Alsiike Clover .....	.90c	1.70	3.75	7.00
White Clover.....	.90c	1.70	4.00	7.50
Alfaifa Clover .....	.90c	1.40	3.25	6.00
Japanese Buckwheat .....	.30c	.50	1.00	1.60

Prices subject to market changes.
Single pound 5 cents more than the 5-pound rate, and 10 cents extra for postage and sack.

Add 25 cents to your order, for carriage, if wanted by freight, or 10 cents per pound if wanted by mail.

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**200-Egg Incubator
for \$12.00**
Perfect in construction and action. Hatches every fertile egg. Write for catalogue and day. GEO. H. STAHL, Quincy, Ill.

I ARISE
To say to the readers of the BEE JOURNAL that
Doolittle ...
has concluded to sell QUEENS in their season during 1901, at the following prices:
1 Untested Queen .. \$1.00
3 Untested Queens.. 2.25
1 Tested Queen 1.25
3 Tested Queens.... 3.00
1 select tested queen 1.50
3 " " Queens 4.00
Select Tested Queen, last year's rearing 2.50
Extra selected breeding, the very best... 5.00

Circular free, giving particulars regarding class of Queens, conditions, etc. Address,

G. M. DOOLITTLE,
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11A26t

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PURITY, FIRMNESS, No SAGGING, No
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so well? ***

Because it has always given better satisfaction than any other.
Because in 23 years there have not been any complaints, but thousands of compliments.

Send name for our Catalog, Samples of Foundation and Veil Material.
We sell the best Veils, cotton or silk.

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Very fine pure-bred BARRED PLYMOUTH ROCK Chickens and Eggs for sale at very low prices.

LANGSTROTH on the HONEY-BEE—Revised
The classic in Bee-Culture—Price, \$1.25, by mail.

Beeswax wanted at all times.

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\$15.00 and \$25.00 Queens

Having a Measured Tongue Reach.

The call for queens of our celebrated \$200 imported mother has been so great that we have decided, in addition to the \$2.00, \$4.00, and \$6.00 grades of this stock, to offer some \$10.00, \$15.00, and even \$25.00 of this same blood. But these prices are for tested queens, the tongues of whose bees have been measured.

The \$10.00 queen is guaranteed to produce bees with a tongue measurement of 19-100.

The \$15.00 queen, 20-100.

The \$25.00 queen, 21-100.

These last are very rare and with one exception this (21-100) is the longest tongue reach yet secured. We reserve the right, when we do not have the stock with the tongue reach called for, either to return the money or to send the next lower, remitting the balance. It would be well for our friends to put in their orders at once, and as soon as we get the grades we will send notice. When the money is sent, the queens will be forwarded. These will be put up in the very best manner possible; and while we guarantee safe arrival in good order to any point in the United States, on any railway line, we will not guarantee safe introduction. Such valuable queens should be released on hatching brood.

N. B.—It seems as if it ought not to be necessary to say that no one but a queen-breeder or a large honey-producer should order these high-priced queens; but it is a fact according to our experience that beginners with only a few colonies will order our highest priced imported queens. Such bee-keepers have no more use for such queens than a pig has for a wheel-barrow.

THE A. I. ROOT CO., Medina, Ohio.
(U. S. A.)

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